CLAIMS

What is claimed is:

1. A distributed operating system for a semiconductor test system for testing at least one device under test (DUT), the operating system comprising:

a host operating system for enabling control of at least one site controller by a system controller; and

at least one local operating system associated with each site controller for enabling control of at least one test module by an associated site controller,

wherein at least one test module performs testing on a corresponding DUT.

2. The distributed operating system of claim 1, wherein the host operating system synchronizes operation of the at least one site controller.

3. The distributed operating system of claim 1, wherein the host operating system arbitrates communication between the system controller and the at least one site controller.

4. The distributed operating system of claim 1, wherein the system controller monitors operation of the at least one site controller.

5. The distributed operating system of claim 1, wherein a site controller monitors operation of the at least one test module associated with the site controller.

6. The distributed operating system of claim 1, wherein the host operating system comprises at least one host interface for communicating with the at least one site controller.

7. The distributed operating system of claim 6, the at least one host interface for communicating with at least one test module associated with a site controller.

8. The distributed operating system of claim 1, further comprising a test module interface for defining test module functions for interfacing a site controller to a first test module, wherein the test module interface is extensible to interface the site controller to a second test module, the unextended test module interface being insufficient for interfacing the site controller to the second test module.

9. The distributed operating system of claim 1, wherein the host operating system includes at least one host framework class.

10.   The distributed operating system of claim 9, wherein the at least one host framework class is developed in a standard computer language to enable a user to develop application specific classes for controlling the at least one site controller.

11.   The distributed operating system of claim 10, wherein the standard computer language is C or C++

12.   The distributed operating system of claim 1, wherein each local operating system includes at least one local framework class.

13.   The distributed operating system of claim 12, wherein the at least one local framework class is developed in a standard computer language to enable a user to develop application specific classes for controlling the at least one test module.

14.   The distributed operating system of claim 13, wherein the standard computer language is C or C++.

15.   The distributed operating system of claim 1, wherein the number of modules controlled by each site controller is scalable.

16.   The distributed operating system of claim 1, wherein the local operating system associated with a corresponding site controller enables the type of test modules controlled by the site controller to be reconfigured. .

17.   The distributed operating system of claim 1, wherein the host operating system enables the number of site controllers controlled by the system controller to be scalable.

18.   The distributed operating system of claim 1, wherein the host operating system enables the number of DUTs tested by the testing system to be scalable.

19.   The distributed operating system of claim 1, wherein the at least one test module comprises hardware and/or software.

20.   The distributed operating system of claim 1, further comprising an emulator for simulating the usage of a candidate test module with the test system to verify the candidate module as compatible with the test system.

21.   The distributed operating system of claim 1, wherein a first set of modules at a first test site is configured differently than a second set of modules at a second test site.

22.   The distributed operating system of claim 1, a first test site having a first configuration to test a first DUT, and a second test site having a second configuration to test

30

a second DUT, wherein the first and second test sites are reconfigurable to form together a third test site to instead test a third DUT.

23. The distributed operating system of claim 1, wherein a first module at a first test site can access a second module at a second test site.

24. The distributed operating system of claim 1, further comprising a communications library having a predetermined set of functions and interfaces for use with test modules.